Prevention Research Centers

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Massachusetts

Curriculum for Schools to Reduce Prevalence of Obesity

Public Health Problem

Between 1980 and 1999, the prevalence of overweight nearly tripled (from 5% to 14%) among adolescents and nearly doubled (from 7% to 13%) in children 6-11 years of age. This finding forecasts an increase in chronic disease as the younger generation ages. Root causes include insufficient physical activity in relation to excess calories consumed.

Taking Action

The Harvard University Prevention Research Center (PRC) developed Planet Health, an interdisciplinary curriculum created to improve the health and well-being of students in public middle schools. The curriculum was designed to fit easily into language, math, science, social studies, and physical education classes. The goals were to increase consumption of fruits and vegetables and physical activity, and decrease consumption of high-fat foods and television viewing.

The Planet Health program was initially implemented in 10 public middle schools over a two year period. Boston Public Schools (BPS) expressed interest in disseminating Planet Health after the program was found to significantly reduce television viewing for both girls and boys, and significantly decrease the prevalence of obesity among girls. A partnership was formed to pilot test how feasible and sustainable the curriculum could be in public school settings where resources are constrained. The BPS selected a sample of six inner-city middle schools to participate, while the PRC provided the Planet Health curriculum, training workshops for more than 100 teachers, small stipends for teacher coordinators within each of the participating schools, and research expertise to assess diffusion of the program.

Implications and Impact

The Planet Health curriculum succeeded in significantly reducing television viewing for both boys and girls, and significantly decreasing the prevalence of obesity for girls. The Planet Health curriculum is now used in hundreds of middle schools in the Boston area, and 2,000 copies of the curriculum have been purchased by interested parties in 48 states and 20 countries. An independent economic analysis found that every dollar spent on the program in middle school translates to a savings of $1.20 in medical costs and lost wages when the children reach middle age.

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New York

Asthma Intervention for Children in Central Harlem

Public Health Problem

Asthma prevalence and mortality have been increasing in the United States, but the causes are not completely understood. Some asthma risk factors are known or suspected to be more prevalent in poor, urban communities, where low-quality housing, roach infestation, tobacco smoke exposure, and other conditions contribute to a high asthma burden.

Taking Action

In 2001, the Department of Pediatrics at Harlem Hospital Center partnered with The Harlem Children's Zone, Inc. (HCZ) to reduce the burden of asthma on children and their families in central Harlem. Columbia University's Prevention Research Center collaborated with these partners in conducting a comprehensive and rigorous evaluation of the project's impact.

First, a group of children who had the greatest number of recent asthma symptoms was chosen to enroll in the intervention. Participants received medical, legal, social, educational, and environmental services from a multi-disciplinary team over an 18-month period. Results of the study showed substantial and significant improvements among the participants: school absenteeism decreased by more than half, with a decrease from 23% to 8% due to asthma in particular; a 27% reduction in emergency room and unscheduled physician visits, as well as a nearly 9% reduction in hospitalizations were observed; and use of effective asthma management strategies, such as use of daily preventive medicine and development of an asthma management plan, significantly increased. These results strongly suggest that the program is effective in improving asthma management among children enrolled in the project.

Implications and Impact

Plans are underway to expand the program to all children with asthma identified through asthma screening efforts, and the scope of services offered will be expanded by engaging additional agencies such as the New York City Department of Health and Mental Hygiene, the New York City Department of Education, and the New York City Health and Hospitals Corporation.

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Improved Physical Activity and Diet in Elementary School Children

Public Health Problem

Over the past two decades, childhood overweight has steadily increased, and the increase in childhood diabetes has become alarming. These changes have highlighted the importance of developing and disseminating effective programs to increase physical activity and improve diet among children and to coordinate health messages in schools and communities.

Taking Action

Under the auspices of the National Institutes of Health, researchers at the University of Texas Health Science Center, in collaboration with experts from Tulane University, the University of California at San Diego, and the University of Minnesota, developed the Coordinated Approach to Child Health (CATCH), an interdisciplinary program for elementary schools. CATCH is designed to improve environmental influences to support behavior change. The program emphasizes decreasing consumption of high-fat foods and increasing physical activity both inside and outside of school.

With support from CDC, the Prevention Research Center at the University of Texas Health Science Center at Houston sought to disseminate, implement, and institutionalize CATCH in elementary schools. Partnerships to disseminate CATCH included the Texas Department of Health; Texas Education Agency; Paso del Norte Health Foundation; National Heart, Lung, and Blood Institute; American Heart Association; Texas Medical Association; Bexar County Community Health Collaborative; and other organizations.

Initial implementation of CATCH resulted in a 10% increase in the time that participating children spent engaged in moderate to vigorous physical activity within physical education classes, as well as a significant decrease in fat consumption in school meals. A follow-up study indicated a persistent increase in physical activity and reduction in fat intake over the next three years without additional intervention.

Implications and Impact

In Texas alone, more than 1,500 elementary schools (approximately one-third of all schools) have adopted CATCH, thereby potentially reaching more than 750,000 school children. Schools in Illinois, Maine, Florida, Georgia, North Dakota, North Carolina, and New Mexico also have begun to use the program. The U.S. Department of Defense uses it in 320 of its overseas elementary schools.
In seven years, LFP progressed from implementation at one site to 64 community sites (49 in Washington alone), and the program currently has 2,550 seniors enrolled in six states. The National Council on Aging recognizes the program as one of the top 10 physical activity programs for U.S. seniors.

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Washington

Successful Physical Activity Program for Older Adults

Public Health Problem

About 12 million older adults living at home have chronic conditions and report limited ability to perform daily activities. Physical limitations, which are associated with insufficient physical activity and overweight, decrease quality of life, increase the need for costly long-term care, and make challenging demands on family members and other caregivers.

Taking Action

The University of Washington's Health Promotion Research Center focuses on healthy aging. In 1993, the center collaborated with the Group Health Cooperative of Puget Sound and Senior Services of Seattle/King County (SSSKC) to develop the Lifetime Fitness Program (LFP), a physical activity program that consists of exercises developed specifically for older adults. These exercises have been packaged into a program that emphasizes four key areas critical to the health and fitness of seniors: stretching and flexibility; low-impact aerobics; strength training; and balance. One-hour classes that meet three times a week are designed to be supportive and socially stimulating. Many senior participants enter the program for the social stimulation as much as for the physical benefits.

In 1998, Group Health Cooperative, a large Seattle-based Health Maintenance Organization, began offering participation in the program as a benefit to all its Medicare enrollees. SSSKC obtained funding from the local Area Agency on Aging to make the program available to community-dwelling seniors via senior centers.

Implications and Impact

The pilot study showed that LFP participants improved significantly in almost every area tested, from physical and social functioning to levels of pain and depression. The health care costs of participants who attended the program at least once a week were significantly reduced. A recent economic analysis of Medicare enrollees showed that those participating in LFP at least once per week had significantly fewer hospitalizations (by 7.9%) and lower health care costs (by $1,057) than nonparticipants.

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West Virginia

Successful Program for Teenagers to Quit Smoking

Public Health Problem

Every year, more than 400,000 people die prematurely from diseases caused by smoking or other forms of tobacco use. Approximately 80% of adult smokers started smoking before age 18, and nearly 70% of adult smokers want to stop smoking but need help to quit permanently.

Taking Action

The American Lung Association's (ALA) quit smoking program for teens, Not on Tobacco (NOT), was proven successful for students in urban schools. It had not been tested in rural areas until West Virginia University's Prevention Research Center completed a 5-year project to test NOT among teens in rural Appalachian schools.

While evaluating the program's effectiveness, the researchers explored the relationship between smoking and mental health among adolescents. The NOT Program engaged teens in group sessions led by trained facilitators during school hours. More than 250 participating students learned techniques to reduce stress, handle peer pressure, control nicotine cravings, eat well, and engage in regular exercise. After three months, the quit rate of smoking was almost four times higher for students in the program than for those who were not.

Implications and Impact

Based on these positive results, many participating schools are maintaining the program. The ALA is also expanding the program to other schools in Appalachian states. NOT is now used in 47 states, and nearly 33,000 teens participated in NOT from 1999 through 2003. Furthermore, the University of North Carolina's Center for Health Promotion and Disease Prevention is collaborating with its West Virginia colleagues on similar projects with American Indian communities in North Carolina, where smoking rates are among the highest in the nation. The program recently received nationwide recognition when the Substance Abuse and Mental Health Services Administration (SAMHSA) designated it a “model program.” SAMHSA will now support the provision of “materials, training, and technical assistance for nationwide implementation” of the program.

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